

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-104 (cancelled).

105. (currently amended) A ~~data-processing computer~~ system for automatically generating a ~~global-simulation~~ model of a configuration of software simulation elements, comprising:

storage means for storing a plurality of software simulation elements, said [[a]] plurality of ~~said~~-software simulation elements ~~provided with mutually connected by~~ inter working connections so as to constitute the ~~global-simulation~~ model of an architecture, wherein the ~~global-simulation~~ model comprises models of integrated circuits for the realization of a machine that conforms to a functional specification of a configuration defined in a configuration definition file; and by a user,

a data processing system comprising execution means provided with a Configurator, said Configurator causing the execution means to perform the following:
~~further comprising~~

~~means for creating a simulation of wiring by executing stored regular expressions, and~~

~~means for using the configuration definition file, a component and connection rule table, a connection coherency rule table;[[,]]~~ wherein the component and connection rule table ~~being are~~ written in a high level language (HLL), and the component and connection rule table ~~describing describe~~ properties of software components for simulating the circuit, and the connection coherency rule table ~~being~~

are written in ~~[[a]]~~ the high level language, and

~~means for~~ instantiating components resulting from the configuration definition file, and

generating an HLL code ~~generator~~ that combines ~~the~~ parameters of the components with the connection ~~roles~~ rules.

106. (previously presented) A system according to claim 105, wherein the components comprise Active Components, Monitoring and Verification Blocks, Intermediate Blocks, System Blocks, and Global Blocks.

107. (currently amended) A system according to claim 106, said Configurator further causes the execution means ~~comprising means~~ to perform a conformity check of the connections by comparing ~~the~~ an instance connection table with a table of coherency rules for the physical connections between the models chosen from the blocks constituting the ~~global~~ model.

108. (currently amended) A system according to claim 107, said Configurator further causes the execution means ~~comprising means~~ to compare the instance connection table to the connection coherency rule table to detect any incompatible connections between the ends of the connections between blocks, and incases where an incompatible connection is detected, the ~~data processing~~ system is configured to specify and add an adapter component (Intermediate Block) to the instance connection table, said adapter component being inserted into the incompatible connection between the components.

109. (currently amended) A system according to claim 108, wherein the component and connection rule table includes ~~the~~ properties of the components and contains ~~global~~ parameters common to all of the component types and exists in the form of a

table distributed into one or more associative tables, wherein the entries are names designating all of the possible models for the same component.

110. (currently amended) A system according to claim 109, wherein the associative tables are adapted to contain a description either in the form of parameter sets or in the form of references to procedures that generate the required values, ~~wherein and~~

the entries of these associative tables comprise names designating all of the possible models for the same component[[,]] and form a character string containing predetermined special identifiers that are replaced by values calculated by the Configurator.

111. (previously presented) A system according to claim 110, wherein at least three selectors indicate the instance to be used, and in which the following selectors are transmitted as parameters to a constructor of an HLL object:

a first selector indicating a current instance (item);

a second selector specifying the current instance connected to the other end of the port; and

a third selector indicating a composite instance corresponding to an active Component containing an observation port.

112. (currently amended) A system according to claim 105, wherein the Configurator ~~further includes;~~comprises

one or more connection coherency rule tables representing the rules for interconnecting the components and for inserting intermediate components;

one or more component and connection rule tables representing the system-level connection rules and the rules for generating connections between the signals; and

one or more source file formatting tables representing the rules for generating instances of HLL ~~HLL-type~~ objects.

113. (currently amended) A system according to claim 105, wherein the Configurator further comprises:

an HLL base class which uniquely ~~identifying~~ identifies each object instantiated and which polls ~~polling~~ the configuration; and said Configurator further causes the execution means to perform the following:

~~means for~~ generating and automatically instantiating System Blocks;

~~means for~~ using tables to associate the signals connected together under a unique name of the connecting wires; and

~~means for~~ using a formatting table to generate ~~HDL type and HLL type~~ hardware description language (HDL) and HLL source files.

114. (currently amended) A system according to claim 105, wherein the system is configured to receive from an operator a functional specification of the configuration in a high level language, and to complete the functional specification with the components in a language having a level lower than said high level language.

115. (currently amended) A system according to claim 105, wherein the following entries in a hash define a Component Type and correlate each Component Type to ~~[[a]]~~ the hash, said hash comprising the following:

a first entry comprising a name of ~~the~~ a hardware description language (HDL) module of ~~the~~ a component and a name of a corresponding source file; and

a second entry comprising a definition of a method for selecting the signals that are part of a Port, said definition comprising a set of entries indexed by ~~the~~ a name of the Port;

wherein the Configurator is configured to associate each said Port name with a table of regular expressions and a pointer to a signal connection procedure that controls the application of the expressions to the names of the signals of the interface of the component.

116. (currently amended) A system according to claim 115, wherein said Component Type comprises one or more Active Components having a generic structure that includes a containing Block that contains containing the an HDL Block including an HDL description and a Block in HLL that provides ~~the~~ access paths to ~~the~~ HDL resources[[,]] and a description of the containing block in the high level language: HLL;

wherein the set of signals of the HDL Block constitutes block constitute the an interface of the containing Block, formed by Ports, which are arbitrary logical selections of the signals of an interface, and also formed by interface adapters which are the software parts that handle, in each Port, the two-way communication between the parts in high level language HLL and those in hardware description language-HDL, the interface adapters being selected by the Configurator.

117. (previously presented) A system according to claim 116, wherein the Ports are specified in the form of regular expressions that select subsets of signals to be connected and define connection rules.

118. (previously presented) A system according to claim 105, wherein the Configurator is further configured to generate Transfer Components which are inserted on each side of the interface between servers, said Transfer Components comprising wires for inputs and registers for outputs.

Claims 119-129 (cancelled).